

CLAIMS

1. A method of manufacturing a gas barrier film coated plastic container, comprising the steps of:

reducing the pressure inside a plastic container or reducing the pressure of the entire plastic container;

flowing a dry gas as a leak gas at the time the vacuum is opened to fill the inside of the container with said dry gas to dry said plastic container; and

replacing the gas inside said plastic container with a source gas or a gas which includes a source gas, converting said source gas to plasma, and forming a gas barrier film on the inner surface of said plastic container by a CVD (Chemical Vapor Deposition) method.

2. The method of manufacturing a gas barrier film coated plastic container described in Claim 1, wherein the reduced pressure inside said plastic container or the reduced pressure of the entire plastic container forms an attainment pressure of 100 Pa or lower.

3. A method of manufacturing a gas barrier film coated plastic container, comprising the steps of:

blowing the inside of a plastic container with a heated dry gas at 50 ~ 60°C to fill the inside of the container with said heated dry gas to dry said plastic container; and

replacing the gas inside said plastic container with a source gas or a gas which includes a source gas, converting said source gas to plasma, and forming a gas barrier film on the inner surface of said plastic container by a CVD method.

4. The method of manufacturing a gas barrier film coated plastic container described in Claim 1, 2 or 3, wherein said plastic container is heated by microwaves to dry said plastic container before flowing said dry gas inside said plastic container or at the same time said dry gas is flowed, or before blowing the inside of said plastic container with said heated dry gas or at the same time blowing with said heated dry gas is carried out.

5. The method of manufacturing a gas barrier film coated plastic container described in Claim 1, 2 or 3, wherein said plastic container is heated by a resistance wire type electric heater to dry said plastic container before flowing said dry gas inside said plastic container or at the same time said dry gas is flowed, or before blowing the inside of said plastic container with said heated dry gas or at the same time blowing with said heated dry gas is carried out.

6. A method of manufacturing a gas barrier film coated plastic container, comprising the steps of:

heating a plastic container by microwaves, and then blowing the inside of said plastic container with a dry gas to fill the inside of the container with the dry gas to dry said plastic container, or heating said plastic container by microwaves to dry said plastic container at the same time the inside of the plastic container is blown with dry gas to fill the inside of the container with the dry gas; and

replacing the gas inside said plastic container with a source gas or a gas which includes a source gas, converting said source gas to plasma, and forming a gas barrier film on the inner surface of said plastic container by a CVD method.

7. A method of manufacturing a gas barrier film coated plastic container, comprising the steps of:

heating a plastic container by a resistance wire type electric heater, and then blowing the inside of said plastic container with a dry gas to fill the inside of the container with the dry gas to dry said plastic container, or heating said plastic container by a resistance wire type electric heater to dry said plastic container at the same time the inside of the plastic container is blown with dry gas to fill the inside of the container with the dry gas; and

replacing the gas inside said plastic container with a source gas or a gas which includes a source gas, converting said source gas to plasma, and forming a gas barrier film on the inner surface of said plastic container by a CVD method.

8. The method of manufacturing a gas barrier film coated plastic container described in Claim 1, 2, 3, 4, 5, 6 or 7, wherein the period of time required from the time the replacement of the gas inside said plastic container with the source gas or the gas which includes the source gas is begun until the vacuum is opened after a gas barrier film is formed on the inner surface of said plastic container is 10 seconds or less.

9. The method of manufacturing a gas barrier film coated plastic container described in Claim 1, 2, 3, 4, 5, 6, 7 or 8, wherein said dry gas or said heated dry gas is dehumidified air, carbon dioxide gas or nitrogen gas, and the dew point is -20°C or lower.

10. The method of manufacturing a gas barrier film coated plastic container described in Claim 1, 2, 3, 4, 5, 6, 7, 8 or 9, wherein a container formed from polyethylene terephthalate resin, polyethylene terephthalate type co-polyester resin, polybutylene terephthalate resin, polyethylene naphthalate resin, polystyrene resin, ethylene-vinyl alcohol copolymer resin, acrylonitrile resin, polyvinyl chloride resin, polyamide resin, polyamide-imide resin, polyacetal resin, polycarbonate resin, polysulfone resin, acrylonitrile-styrene resin, polyether sulfone resin or acrylonitrile-butadiene-styrene resin is used as said plastic container.